

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Appeals and Interferences

In re the Application of

Inventors: Chan Wah NG et al.

Appln No.: 10/561,194

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For: MOBILE TERMINAL APPARATUS AND HANDOFF METHOD THEREOF

REPLY BRIEF

On Appeal From Art Unit 2617
Examiner Tangela Chambers
Confirmation No. 3919

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee of the present application, Panasonic Corp. of Osaka, Japan.

II. RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences, or judicial proceedings known to Appellants, Appellants' legal representative, or the assignee that may be related to, directly affect or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-9 have been presented for examination. In an amendment submitted, under 37 CFR 41.33(b), after receiving the Examiner's Answer, claims 1 and 6-9 have been canceled and claims 2-5 have been rewritten in independent form. Claims 2-5 stand finally rejected and form the subject matter of the present appeal.

IV. STATUS OF AMENDMENTS

Appellants have not received an indication as to whether the above-described amendments of claims 1-9 will be entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

An object of the claimed invention is to achieve smooth continuous packet switched communication sessions for a mobile terminal apparatus in transit (see substitute specification page 3, lines 22-26).

To achieve this or other objects of the invention, independent claim 2 defines a mobile terminal apparatus 100 having a plurality of interfaces 101-1...101-M, each interface 101 being capable of, when an associated access mechanism 161, 162 thereof is in an active state, obtaining

a connection to a network 150 using one of a home-address and a care-of-address, the home-address being assigned to interface 101 in advance, the care-of-address being assigned to interface 101 while interface 101 is in a domain where the home-address is not available (see Figs. 1 and 2 and substitute specification page 5, line 21, through page 6, line 1, page 8, lines 2-9, and page 10, line 16, through page 11, line 7). An instructing section 104 instructs a setup of a binding of a home-address of a first interface 101-a of interfaces 101-1...101-M and one of a home-address and a care-of-address of a second interface 101-b of interfaces 101-1...101-M, first interface 101-a losing a connection obtained through a care-of-address of first interface 101-a (see page 12, lines 7-11, and page 14, line 14, through page 15, line 7). A setup section 102 sets up the binding (see page 15, lines 3-7 and 11-17).

Instructing section 104 includes: (1) a detecting section that detects the loss of the connection obtained through the care-of-address of first interface 101-a; (2) a searching section that, when the loss of the connection of first interface 101-a is detected, searches for at least one interface whose associated access mechanism is in an active state from among interfaces 101-1...101-M; (3) a selecting section that selects, based on a predetermined criterion, second interface 101-b from among the at least one interface that has been searched; (4) a deciding section that decides whether or not selected second interface 101-b is present in a domain where the home-address of second interface 101-b is available; and (5) a determining section that determines the home-address of second interface 101-b is bound to the home-address of first interface 101-a when second interface 101-b is present in the domain where the home-address of second interface 101-b is available and that determines the care-of-address of second interface 101-b is bound to the home-address of first interface 101-a when second interface 101-b is not

present in the domain where the home-address of second interface 101-b is available, based on a result of the decision by the deciding section (see Fig 3 and page 12, line 19, through page 15, line 25).

To further achieve the above object or other objects of the invention, independent claim 3 defines a mobile terminal apparatus 200 having a plurality of interfaces 201-1...201-M, each interface 201 being capable of, when an associated access mechanism 161, 162 thereof is in an active state, obtaining a connection to a network 150 using one of a home-address and a care-of-address, the home-address being assigned to interface 201 in advance, the care-of-address being assigned to interface 201 while interface 201 is in a domain where the home-address is not available (see Figs. 2, 4, and 5 and page 5, line 21, through page 6, line 1, page 8, lines 2-9, page 10, line 16, through page 11, line 7, and page 16, lines 9-14). An instructing section 202 instructs a setup of a binding of a home-address of a first interface 201-a of interfaces 201-1...201-M and one of a home-address and a care-of-address of a second interface 201-b of interfaces 201-1...201-M, first interface 201-a losing a connection obtained through a care-of-address of first interface 201-a (see page 12, lines 7-11, page 14, line 14, through page 15, line 7, and page 16, lines 9-14). A setup section 102 sets up the binding (see page 15, lines 3-7 and 11-17, and page 16, lines 9-14). Each of the plurality of interfaces 201-1...201-M predicts a loss of a connection obtained through an assigned care-of-address (see page 16, lines 15-17, and page 19, lines 1-8).

Instructing section 202 includes: (1) a searching section that, when the loss of the connection of first interface 201-a is predicted by first interface 201-a, searches for at least one interface whose associated access mechanism is in an active state from among interfaces 201-

1...201-M; (2) a selecting section that selects, based on a predetermined criterion, second interface 201-b from among the at least one interface that has been searched; (3) a deciding section that decides whether or not selected second interface 201-b is present in a domain where the home-address of second interface 201-b is available; and (4) a determining section that determines the home-address of second interface 201-b is bound to the home-address of first interface 201-a when second interface 201-b is present in the domain where the home-address of second interface 201-b is available and that determines the care-of-address of second interface 201-b is bound to the home-address of first interface 201-a when second interface 201-b is not present in the domain where the home-address of second interface 201-b is available, based on a result of the decision by the deciding section (see Fig 5 and page 18, line 11, through page 19, line 20).

To further achieve the above object or other objects of the invention, independent claim 4 defines a mobile terminal apparatus 300 having a plurality of interfaces 301-1...301-M, each interface 301 being capable of, when an associated access mechanism 161, 162 thereof is in an active state, obtaining a connection to a network 150 using one of a home-address and a care-of-address, the home-address being assigned to interface 201 in advance, the care-of-address being assigned to interface 301 while interface 301 is in a domain where the home-address is not available (see Figs. 2, 3, 7, and 8 and substitute specification page 5, line 21, through page 6, line 1, page 8, lines 2-9, page 10, line 16, through page 11, line 7, and page 22, lines 15-20). An instructing section 302 instructs a setup of a binding of a home-address of a first interface 301-a of interfaces 301-1...301-M and one of a home-address and a care-of-address of a second interface 301-b of interfaces 301-1...301-M, first interface 301-a losing a connection obtained

through a care-of-address of first interface 301-a (see page 12, lines 7-11, page 14, line 14, through page 15, line 7, and page 22, lines 15-25). A setup section 102 sets up the binding (see page 15, lines 3-7 and 11-17, and page 22, lines 15-20).

Instructing section 302 comprises: (1) a detecting section that detects the loss of the connection obtained through the care-of-address of first interface 301-a; (2) a searching section that, when the loss of the connection of first interface 301-a is detected, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with first interface 301-a from among the plurality of interfaces 301-1...301-M; (3) a selecting section that selects, based on a predetermined criterion, second interface 301-b from among the at least one interface that has been searched; (4) an activating section that activates an access mechanism associated with the selected second interface; (5) a deciding section that decides whether or not the selected second interface whose associated access mechanism is activated is present in a domain where the home-address of second interface 301-b is available; and (6) a determining section that determines the home-address of second interface 301-b is bound to the home-address of first interface 301-a when second interface 301-b is present in the domain where the home-address of second interface 301-b is available, and that determines the care-of-address of second interface 301-b is bound to the home-address of first interface 301-a when second interface 301-b is not present in the domain where the home-address of second interface 301-b is available, based on a result of the decision by the deciding section (see page 12, line 19, through page 15, line 25, and page 23, line 15, through page 24, line 13).

To further achieve the above object or other objects of the invention, independent claim 5 defines a mobile terminal apparatus 400 having a plurality of interfaces 401-1...401-M, each

interface 401 being capable of, when an associated access mechanism 161, 162 thereof is in an active state, obtaining a connection to a network 150 using one of a home-address and a care-of-address, the home-address being assigned to interface 401 in advance, the care-of-address being assigned to interface 401 while interface 401 is in a domain where the home-address is not available (see Figs. 2, 4, 5, 9, and 10 and page 5, line 21, through page 6, line 1, page 8, lines 2-9, page 10, line 16, through page 11, line 7, and page 25, line 17, through page 26, line 6). An instructing section 402 instructs a setup of a binding of a home-address of a first interface 401-a of interfaces 401-1...401-M and one of a home-address and a care-of-address of a second interface 401-b of interfaces 401-1...401-M, first interface 401-a losing a connection obtained through a care-of-address of first interface 401-a (see page 12, lines 7-11, page 14, line 14, through page 15, line 7, and page 26, lines 12-20). A setup section 102 sets up the binding (see page 15, lines 3-7 and 11-17, and page 25, line 17, through page 26, line 6). Each of the plurality of interfaces 401-1...401-M predicts a loss of a connection obtained through an assigned care-of-address (see page 16, lines 15-17, page 19, lines 1-8, and page 26, lines 1-11).

Instructing section 402 comprises: (1) a searching section that, when the loss of the connection of first interface 401-a is predicted by first interface 401-a, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with first interface 401-a from among plurality of interfaces 401-1...401-M; (2) a selecting section that selects, based on a predetermined criterion, second interface 401-b from among the at least one interface that has been searched; (3) an activating section that activates an access mechanism associated with the selected second interface; (4) a deciding section that decides whether or not the selected second interface whose access mechanism is activated is

present in a domain where the home-address of second interface 401-b is available; and (5) a determining section that determines the home-address of second interface 401-b is bound to the home-address of first interface 401-a when second interface 401-b is present in the domain where the home-address of second interface 401-b is available, and determines the care-of-address of second interface 401-b is bound to the home-address of first interface 401-a when second interface 401-b is not present in the domain where the home-address of second interface 401-b is available, based on a result of the decision by the deciding section (see page 18, line 11, through page 19, line 20, and page 26, line 12, through page 27, line 1).

The references herein to the substitute specification and drawings are for illustrative purposes only and are not intended to limit the scope of the invention to the referenced embodiments.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 2 and 3 stand correctly rejected, under 35 USC §103(a), as being unpatentable over Lee et al. (US 6,535,493) in view of Dutta et al. (US 2004/0122976) and Gwon (US 2003/0016655). Whether claims 4 and 5 stand correctly rejected, under 35 USC §103(a), as being unpatentable over Lee in view of Dutta, Gwon, and Linder et al. (US 2002/0194385).

VII. ARGUMENT

A. Applicable Law

To establish a *prima facie* case of obviousness, all the claim limitations must be taught or suggested by the prior art. *MPEP §2143.03, first sentence; In re Royka, 490 F.2d 981, 984-985, 180 USPQ 580, 583 (CCPA 1974)*. Rejections on obviousness cannot be sustained by mere

conclusory statements. Instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. See *KSR International v. Teleflex Inc.*, U.S. Supreme Court No. 04-1350 (2007); *In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006); and *MPEP* §2143.01(I), first sentence of third paragraph.

As stated in *KSR*, exemplary rationales that may support a conclusion of obviousness include:

(A) Combining prior art elements according to known methods to yield predictable results;

(B) Simple substitution of one known element for another to obtain predictable results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) "Obvious to try" - choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;

(G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. See *MPEP* § 2143.

B. Rejections of Claims 2 and 3 under 35 USC §103(a)

1. References Do Not Suggest All Claim Limitations

Claim 2 defines a mobile terminal apparatus that binds a home address of a first interface, (HoA1), with a home address of a second interface, (HoA2), when the mobile terminal is in a domain where HoA2 is available, and binds HoA1 with a care-of address of the second interface, (CoA2), when the mobile terminal is in a domain where HoA2 is not available. The claimed subject supports the ability of a mobile terminal to maintain communication with a network by temporarily borrowing one of addresses assigned to a second network interface address when communication through the address of a first network interface is disrupted, such as when the mobile terminal is experiencing a base station handoff (see substitute specification page 15, line 26, through page 16, line 6).

The Examiner's Answer proposes that Lee discloses the above-mentioned subject matter of claim 2 in Fig. 7, column 9, lines 57-65, and column 11, lines 48-61 (see Examiner's Answer, paragraph bridging pages 6 and 7).

However, Lee discloses in column 9, lines 57-65, that a home agent: (1) updates its binding record and sends a registration reply to a mobile unit when the home agent accepts a registration request that is received from the mobile unit; (2) sends a registration reply to the mobile unit specifying a reason for denial when denying a registration request; and (3) sends a registration reply to the mobile unit's home subnet in response to receiving a deregistration request (see Lee col. 9, lines 57-65). Lee's disclosed items (1)-(3) are not the same as, or similar to, the Appellants' claimed subject matter of a mobile terminal apparatus that binds a home address of a first interface HoA1 with a home address of a second interface HoA2, when the mobile terminal is in a domain where HoA2 is available, and binds HoA1 with a care-of address

of the second interface CoA2, when the mobile terminal is in a domain where HoA2 is not available. More specifically, Lee does not disclose, in the material cited by the Examiner's Answer, that the mobile unit binds any addresses, as does the Appellants' claimed mobile terminal. And even assuming, *arguendo*, that Lee's home agent could be construed as corresponding to the Appellants' claimed mobile terminal, rather than Lee's mobile unit, Lee does not disclose, in column 9, lines 57-65, that the home agent performs the above-mentioned types of conditional address binding recited in claim 2.

In Fig. 7 and column 11, lines 48-61, Lee discloses a registration process 400 executed by an access point (AP) (see Lee col. 11, lines 48-49). According to this method, the AP repeatedly checks 402 whether it has received a registration reply packet from a home agent. Upon receipt of the registration reply packet, the AP checks 404 whether it is acting as a foreign agent and, if not, the AP's process loops back to the operation of repeatedly checking 402 whether it has received a registration reply packet from a home agent. If the AP is acting as a foreign agent, a reference to a mobile unit is added 406 to the AP's foreign agent table and the registration reply is relayed 408 to the mobile unit.

However, Lee's disclosure -- of an AP that adds a mobile unit reference to a foreign agent table, in response to receiving a registration reply packet, and then relays the registration reply to the mobile unit -- is not the same as, or similar to, the Appellants' claimed subject matter of a mobile terminal apparatus that binds a home address of a first interface HoA1 with a home address of a second interface HoA2, when the mobile terminal is in a domain where HoA2 is available, and binds HoA1 with a care-of address of the second interface CoA2, when the mobile terminal is in a domain where HoA2 is not available. More specifically, Lee's AP is not a mobile

terminal apparatus, as is the Appellants' claimed subject matter. And even assuming, *arguendo*, that Lee's AP could be construed as a mobile terminal apparatus, Lee does not disclose, within the material cited by the Examiner's Answer, that the AP performs the above-mentioned types of conditional binding recited in claim 2.

Dutta and Gwon are not cited in the Examiner's Answer for supplementing the teachings of Lee with respect to the above-mentioned subject matter distinguishing claim 2 from Lee's disclosure.

Accordingly, Appellants submit that Lee, Dutta and Gwon, considered individually or in combination, do not render obvious the subject matter defined by claim 2. Independent claim 3 similarly recites the above-mentioned subject matter distinguishing claim 2 from the applied references. Therefore, reversal of the rejections applied to claims 2 and 3 is warranted.

2. Office Fails to Establish a *Prima Facie* Basis for Rejections

The Examiner's Answer, Advisory Action, and Final Rejection each fail to provide any findings of fact (i.e., evidence) as to how Lee discloses the subject matter recited in claims 2 and 3 of a mobile terminal apparatus that binds a home address of a first interface HoA1 with a home address of a second interface HoA2, when the mobile terminal is in a domain where HoA2 is available, and binds HoA1 with a care-of address of the second interface CoA2, when the mobile terminal is in a domain where HoA2 is not available (see, for example, Examiner's Answer, paragraph bridging pages 5 and 6). Instead, the Office paraphrases the Appellants' claimed subject matter and concludes that Lee discloses this subject matter in Fig. 7, column 9, lines 57-65, and column 11, lines 48-61, without providing any evidence of how Lee's disclosure is

similar to the claimed subject matter (see, for example, Examiner's Answer, paragraph bridging pages 5 and 6).

Rejections on obviousness cannot be sustained by conclusory statements. Instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. See *KSR; Kahn at 986, 1335*; and *MPEP §2143.01(I), first sentence of third paragraph*.

In the present circumstance, the Final Rejection, Advisory Action, and Examiner's Answer each fail to provide an articulated reasoning with a rational underpinning to support the conclusion that Lee discloses the claimed subject matter of a mobile terminal apparatus that binds a home address of a first interface HoA1 with a home address of a second interface HoA2, when the mobile terminal is in a domain where HoA2 is available, and binds HoA1 with a care-of address of the second interface CoA2, when the mobile terminal is in a domain where HoA2 is not available.

Accordingly, Appellants submit that the Office has failed to establish a *prima facie* basis for the rejections of claims 2 and 3. Therefore, reversal of the rejections applied to claims 2 and 3 is warranted for this independent reason.

3. Lack of Motivation for Modifying Lee's System to Achieve Claimed Structure

The Examiner's Answer acknowledges that Lee does not disclose the Appellants' claimed subject matter of a mobile terminal apparatus that binds a home address of a first network interface, which loses network connectivity, and one of a home address and a care-of-address of a second network interface (see Examiner's Answer page 4, last two paragraphs). To overcome this deficiency, the Examiner's Answer proposes that Dutta discloses this subject matter in Fig.

2A (upper right corner) through a crossover node 214a that updates its routing cache entry with the care-of address of a received message so as to replace an original downlink interface 228 with a new interface 226 pointing towards a base station 216a (see page 4, last two paragraphs, and page 5, lines 1-2).

However, Dutta's crossover node 214a is a fixed-position, intermediate node disposed between a base station 216a and a gateway 212c (see Dutta Fig. 2A and ¶ [0036], lines 1-6). Dutta's fixed-position, intermediate node 214a is not the same as, or similar to, the Appellants' claimed subject matter of a mobile terminal. And neither Dutta nor the Examiner's Answer identify a motivation for applying Dutta's teachings regarding intermediate node 214a to a mobile terminal, such as Dutta's mobile host 222b illustrated in Fig. 2A; instead, the Examiner's Answer cites Dutta's motivation for applying the teaching to a fixed-position, intermediate node (see Examiner's Answer page 5, second paragraph, and Dutta ¶ [0011], in which the object of Dutta's invention is described).

The argument in the preceding two paragraphs was similarly presented in Appellants' Appeal Brief dated February 10, 2009. In response to this argument, the Examiner's Answer acknowledges that Dutta's fixed-position, intermediate node does not correspond to the Appellants' claimed mobile terminal, but, instead, aids in the handoff of a mobile terminal (see Examiner's Answer page 16, last two sentences of second paragraph).

Thus, the Examiner's Answer expressly acknowledges that Dutta does not disclose incorporating the functionality of fixed-position, intermediate node 214a within a mobile terminal and does not cite Lee or Gwon for overcoming this deficiency. Instead, as mentioned above, the Examiner's Answer proposes that Dutta's motivation for incorporating this

functionality within intermediate node 214a provides a teaching and motivation to incorporate the functionality within a mobile terminal. However, the motivation to incorporate functionality within a first device, such as Dutta's fixed-position, intermediate node, so as to achieve a specified goal provides neither a teaching nor a motivation to incorporate the functionality in an acknowledged distinctly different device, such as the Appellants' claimed mobile terminal or Dutta's mobile terminal.

As illustrated by Dutta in Fig. 2a, mobile terminal host 222b is an end-point of communication, not an intermediate point of communication as is intermediate node 214a. Dutta provides no disclosure, as proposed in the Examiner's Answer, that disgorging the functionality of intermediate node 214a and incorporating this disgorged functionality within mobile host 222a will achieve the goal the Examiner's Answer identifies as motivating the particular structural configuration of Dutta's system. And neither Dutta nor the Examiner's Answer indicates: (1) how the functionality of Dutta's intermediate node 214a could be incorporated within a mobile terminal to achieve the goal specified by the Examiner's Answer or (2) how this specified goal is achievable with the functionality incorporated within a mobile terminal rather than intermediate node 214a.

Simply stated, none of the applied references provides a disclosure or teaching to incorporate the functionality of Dutta's intermediate node 214a into a mobile terminal. Instead, the Examiner's Answer has relied entirely on the hindsight afforded by Appellants' disclosure to derive such a combination. Reliance on the hindsight afforded by Appellant's disclosure to derive a motivation to modify the teachings of the prior art so as to achieve the claimed subject matter is impermissible. See *MPEP § 2142, last sentence*.

And although the Examiner's Answer proposes that a skilled artisan would find motivation to modify Lee's system in light of Dutta's teachings so as to achieve integrated mobility management addressing both intra-domain and inter-domain mobility (see Examiner's Answer page 5, second paragraph), Lee discloses that his system already has integrated mobility management addressing both intra-domain and inter-domain mobility (see Lee col. 2, lines 17-23, col. 2, line 51, through col. 3, line 4, and col. 11, lines 8-12). Thus, contrary to the Examiner's Answer proposal, a skilled artisan would not find motivation to modify Lee's system to achieve a capability it already possesses, most especially in light of the absence of disclosure within the applied references as to how the necessary functionality could be integrated within Lee's system.

The argument in the preceding paragraph was similarly presented in Appellants' Appeal Brief. In response to this argument, the Examiner's Answer proposes that the references relied upon in the rejections of claims 2 and 3 relate to analogous art within the same field of endeavor (see Examiner's Answer, paragraph bridging pages 16 and 17, and page 17 second paragraph).

However, the finding of fact that applied references relate to analogous art within the same field of endeavor only provides a basis for relying upon these references in a section 103 rejection. See MPEP § 2141.01(a), first two sentences. Such a finding of fact does not provide a motivation to combine the reference teachings, as proposed in the Examiner's Answer.

As a result, the Examiner's Answer has failed to rebut Appellants' argument that a skilled artisan would not find a motivation to modify Lee's system in light of the teachings of Dutta so as to achieve a capability Lee's system already possesses. The mere finding of fact that Lee's and Dutta's disclosures may be applied in a section 103 rejection does not provide such motivation.

In summary, the Examiner's Answer and Final Rejection: (1) identify no motivation for applying Dutta's teachings regarding a fixed node 214b, that is intermediate between a gateway 212c and base stations 216, 216a, and 216b, to a mobile terminal to achieve the claimed subject matter and (2) identify no motivation for modifying Lee's system in light of Dutta's and Gwon's teachings so as to achieve a capability that Lee's system already possesses.

Accordingly, Appellants submit that Lee, Dutta and Gwon, considered individually or in combination, do not render obvious the subject matter defined by claims 2 and 3. Therefore, reversal of the rejections applied to claims 2 and 3 is warranted.

4. Operational Differences

With the subject matter defined by claims 2 and 3, a second interface's home address HoA2 and a second home agent HA2 are set up in a second interface IF2 of a terminal so that IF2 is capable of communication using HoA2 or a second care-of address CoA2. Consequently, with the Appellants' claimed invention, upon binding IF2 with a home address of a first interface HoA1, additional processing of selecting between using HoA2 and CoA2 is required.

By contrast with this, Dutta fails to disclose setting up a home address and an HA for an IF2. Consequently, according to Dutta's disclosure, upon binding IF2 and HoA1, naturally and necessarily, the care-of address CoA assigned to IF2 is used. Thus, Dutta fails to disclose the Appellants' claimed subject matter of a determining section that selects between using HoA2 and CoA2.

Furthermore, according to the Appellants' claimed invention, it is always possible to use HoA2 to bind IF2 and HoA1 (i.e., regardless of whether or not a terminal is present in a network where HoA2 is available). However, when a terminal, which is not present in a network where

HoA2 is available, binds IF2 and HoA1 using HoA2, a problem arises that a packet for HoA1 is transmitted to the terminal via HA2, and, consequently, the communication path becomes long and inefficient. The Appellants' claimed invention solves this problem by selecting between using HoA2 and CoA2.

Also, according to the Appellants' claimed invention, a deciding section in a terminal decides whether or not a terminal is present in a network where HoA2 is available. By contrast with this feature, Lee discloses deciding, when an access point AP receives a message (i.e., a registration request), whether the AP is functioning as a home agent HA for the transmission source (i.e., mobile terminal) of the message or functioning as a foreign agent, (FA) (see Lee FIG. 6 and col. 10, lines 35-65). Consequently, the subject of decision is different between Lee and the Appellants' claimed invention. More specifically, according to the Appellants' claimed invention, the subject of decision is a terminal, whereas, according to Lee, the subject of decision is an AP.

Assuming that a decision result as to whether an AP is functioning as an HA or functioning as an FA is reported to a terminal and the terminal decides whether or not the terminal is present in a network where HoA2 is available based on the report, the decision by the deciding section of the claimed invention as to whether or not a terminal is present in a network where HoA2 is available needs to be made before the terminal transmits a registration request, (BU), to an AP. Consequently, the result of the decision as to whether or not an AP is functioning as an HA or functioning as an FA, which is made after the AP receives a message (registration request), cannot be used to decide whether or not a terminal is present in a network where HoA2 is available.

C. Rejections of Claims 4 and 5 under 35 USC §103(a)

As with claims 2 and 3, claims 4 and 5 also define a mobile terminal apparatus that binds a home address of a first interface, (HoA1), with a home address of a second interface, (HoA2), when the mobile terminal is in a domain where HoA2 is available, and binds HoA1 with a care-of address of the second interface, (CoA2), when the mobile terminal is in a domain where HoA2 is not available. Just as this subject matter distinguishes claims 2 and 3 from the applied references of Lee, Dutta and Gwon, so too does it distinguish claims 4 and 5 from Lee, Dutta, Gwon and Linder, since the Examiner's Answer does not cite Linder for supplementing the teachings of Lee, Dutta and Gwon with respect to this subject matter.

Thus, the Appellants incorporate by reference, within this section, the remarks presented in sections VIIB(1)-VIIB(4), since these remarks distinguish claims 4 and 5 from the applied references with the same force that they distinguish claims 2 and 3. Accordingly, Appellants submit that Lee, Dutta, Gwon and Linder, considered individually or in combination, do not render obvious the subject matter defined by claims 4 and 5. Therefore, reversal of the rejections applied to claims 4 and 5 is warranted.

D. Conclusion

In view of the law and facts stated herein, it is respectfully submitted that all rejected claims define patentable subject matter. Therefore, reversal of all outstanding grounds of rejection is respectfully solicited.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

2. A mobile terminal apparatus comprising:

a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address, said home-address being assigned to said interface in advance, said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available;

an instructing section that instructs a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface; and

a setup section that sets up the binding, wherein:

said instructing section comprises:

a detecting section that detects the loss of the connection obtained through the care-of-address of said first interface;

a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface whose associated access mechanism is in an active state from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

a deciding section that decides whether or not the selected second interface is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

3. A mobile terminal apparatus comprising:

a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address, said home-address being assigned to said interface in advance, said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available;

an instructing section that instructs a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface; and

a setup section that sets up the binding, wherein:

each of said plurality of interfaces predicts a loss of a connection obtained through an assigned care-of-address; and

said instructing section comprises:

a searching section that, when the loss of the connection of said first interface is predicted by said first interface, searches for at least one interface whose associated access mechanism is in an active state from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

a deciding section that decides whether or not said selected second interface is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

4. A mobile terminal apparatus comprising:

a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address, said home-address being assigned to said interface in advance,

said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available;

an instructing section that instructs a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface; and

a setup section that sets up the binding, wherein:

said instructing section comprises:

a detecting section that detects the loss of the connection obtained through the care-of-address of said first interface;

a searching section that, when the loss of the connection of said first interface is detected, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with said first interface from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

an activating section that activates an access mechanism associated with said selected second interface;

a deciding section that decides whether or not said selected second interface whose associated access mechanism is activated is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and that determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

5. A mobile terminal apparatus comprising:

a plurality of interfaces, each interface being capable of, when an associated access mechanism thereof is in an active state, obtaining a connection to a network using one of a home-address and a care-of-address, said home-address being assigned to said interface in advance, said care-of-address being assigned to said interface while said interface is in a domain where the home-address is not available;

an instructing section that instructs a setup of a binding of a home-address of a first interface of said plurality of interfaces and one of a home-address and a care-of-address of a second interface of said plurality of interfaces, said first interface losing a connection obtained through a care-of-address of said first interface; and

a setup section that sets up the binding, wherein:

each of said plurality of interfaces predicts a loss of a connection obtained through an assigned care-of-address; and

wherein said instructing section comprises:

a searching section that, when the loss of the connection of said first interface is predicted by said first interface, searches for at least one interface associated with an access mechanism of a different type from an access mechanism associated with said first interface from among said plurality of interfaces;

a selecting section that selects, based on a predetermined criterion, said second interface from among said at least one interface that has been searched;

an activating section that activates an access mechanism associated with the selected second interface;

a deciding section that decides whether or not said selected second interface whose access mechanism is activated is present in a domain where the home-address of said second interface is available; and

a determining section that determines the home-address of said second interface is bound to the home-address of said first interface when said second interface is present in the domain where the home-address of said second interface is available, and determines the care-of-address of said second interface is bound to the home-address of said first interface when said second interface is not present in the domain where the home-address of said second interface is available, based on a result of the decision by said deciding section.

IX. EVIDENCE APPENDIX

There is no evidence submitted pursuant to 37 CFR §§1.130, 1.131, or 1.132 of this title or any other evidence entered by the examiner and relied upon by Appellant in the appeal.

X. RELATED PROCEEDINGS APPENDIX

There are no decisions rendered by a court or the Board in any proceeding identified pursuant to 37 CFR §41.37(c)(1)(ii).